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International application number: PCT/AU04/001670

International filing date: 30 November 2004 (30.11.2004)

Document type: Certified copy of priority document

Document details: Country/Office: AU  
Number: 2003907032  
Filing date: 18 December 2003 (18.12.2003)

Date of receipt at the International Bureau: 22 December 2004 (22.12.2004)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



World Intellectual Property Organization (WIPO) - Geneva, Switzerland  
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I, LEANNE MYNOTT, MANAGER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2003907032 for a patent by MARTIN GEESNER PTY LTD as filed on 18 December 2003.



WITNESS my hand this  
Fourteenth day of December 2004

A handwritten signature in black ink, appearing to read "LM".

LEANNE MYNOTT  
MANAGER EXAMINATION SUPPORT  
AND SALES

## TRANSMISSION MECHANISMS AND COMPONENTS THEREFOR

This invention relates generally to transmission mechanisms and components  
5 therefore and more particularly to mechanisms of the type which include an endless track  
adapted to travel around a plurality of guide elements.

One particular application of the present invention concerns its use in conveying  
apparatus. One particular form of conveying apparatus is described in Australian Patent  
10 Specification No. 27682/02. The contents of Patent Specification No. 27682/02 is  
incorporated into the present specification by way of cross reference. It will be  
convenient to hereinafter describe the invention with reference to this particular application  
however, it is to be understood that this is not to be taken as a limitation as to the scope of  
the present invention.

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In Australian Patent Specification No. 27682/02 there is described a mechanism in  
which the endless track members are in the form of chains which are adapted to cooperate  
with sprockets. A disadvantage of chain members is that they are relatively bulky and  
heavy.

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According to one aspect of the present invention there is provided a cable assembly  
suitable for use in a transmission mechanism which includes at least one wheel which the  
cable assembly passes at least partially around when in use, the cable assembly including  
at least one cable having end portions and connecting means for operatively connecting the  
25 end portions of the cable so as to form an endless track, the connecting means including a  
power transmission member and coupling means operatively connecting the end portions  
of the cable to the power transmission member, the power transmission member being  
receivable within recesses in the wheel as the cable assembly passes therearound.

30 In one form a plurality of wheels may be provided. Preferably, the or each wheel  
is in the form of a sheave which has a plurality of grooves formed in the outer peripheral

surface thereof, the grooves communicating with cavities in the outer peripheral surfaces. The recesses are preferably disposed at the edges of the peripheral surface.

5 The cable assembly may include a plurality of cables each being associated with a respective groove and cavity in the sheave. As mentioned earlier, each cable has end portions which are operatively connected together by connecting means so as to form an endless cable or track. Preferably, a plurality of connecting means are arranged in spaced apart relation along the cable length. Each connecting means may include a power transmission member which may be in the form of a tubular body or trunnion having end portions which are receivable within the recesses in the drive wheel. The end portions may include rotatable bushes. In one particular application the power transmission members are adapted to have connected thereto carriages such as those shown and described in Australian Patent Specification No. 27682/02.

15 20 The connecting means may further include coupling means operatively connecting the end portions of the cable to the power transmission member. The coupling means may include a clevis secured to the outer surface of the tubular member and a tongue on the end of the cable. The tongue may be connected to the cable by swaging or any other suitable process. A pin preferably provides for connection between the tongue and clevis.

25 In order to enable a clearer understanding of the invention, drawings illustrating example embodiments are attached, and in those drawings:

Figure 1 is a schematic side elevation of a drive device according to the present invention;

Figure 2 is a detail of part of the drive device shown in Figure 1; and

Figure 3 is a specific detail of part of the device in shown in Figures 1 and 2.

30 Referring to Figure 1 of the drawings there is shown a transmission mechanism

generally indicated at 10 comprising a first wheel 12 and a second wheel 16. In the preferred embodiment shown the wheels are in the form of sheaves 14 which have a plurality of grooves 13 formed in the outer peripheral surface thereof, the grooves communicating with cavities 15. The sheaves further include recesses 17 at the edges of 5 the peripheral surface.

The transmission mechanism 10 further includes a cable assembly 20 which comprises a plurality of cables 22 each being associated with a respective groove and cavity in the sheave. Each cable 22 has end portions 24 and 25 which are operatively 10 connected together by connecting means 30 so as to form an endless cable or track. As best seen in Figure 1 a plurality of connecting means 30 are arranged in spaced apart relation along the cable length. Each connecting means 30 includes a power transmission member 32 in the form of a tubular member or trunnion 33 having end portions 34 and 35 which are receivable within the recesses 17. The end portions 34 and 35 comprise a 15 rotatable bush 36 and 37. The power transmission members are adapted to have connected thereto carriages such as those shown and described in Australian Patent Specification No. 27682/02.

Coupling means 40 operatively connect the end portions of the cable to the power 20 transmission member. The coupling means 40 includes a clevis 42 secured to the outer surface of the tubular member and a tongue 43 on the end of the cable. The tongue may be connected to the cable by swaging or any other suitable process. A pin 44 provides for connection between the tongue and clevis. Provision may be made for adjustment of the connection of the cable to the power transmission member.

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As will be appreciated any number of cables can be provided for the cable assembly. In one form the power transmission members may be segmented. If desired the sheaves may also be segmented. The distance between the power transmission members can be varied to accommodate attachments that travel around at a timed 30 sequence.

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Advantages of the system of the invention include that it is less bulky and relatively light and further alleviates problems associated with slippage and creeping.

It will be appreciated that when in the assembled position one or more power  
5 transmission members 32 are located within recesses 17 in the wheel 12. As the wheel  
rotates one of the transmission members disengages from the recess and a further  
transmission member will become engaged.

Finally, it is to be understood that the inventive concept in any of its aspects can be  
10 incorporated in many different constructions so that the generality of the preceding  
description is not to be superseded by the particularity of the attached drawings. Various  
alterations, modifications and/or additions may be incorporated into the various  
constructions and arrangements of parts without departing from the spirit or ambit of the  
invention.

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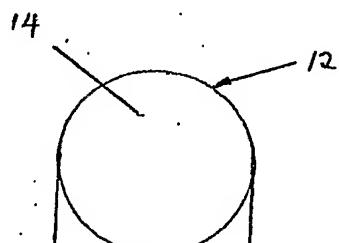
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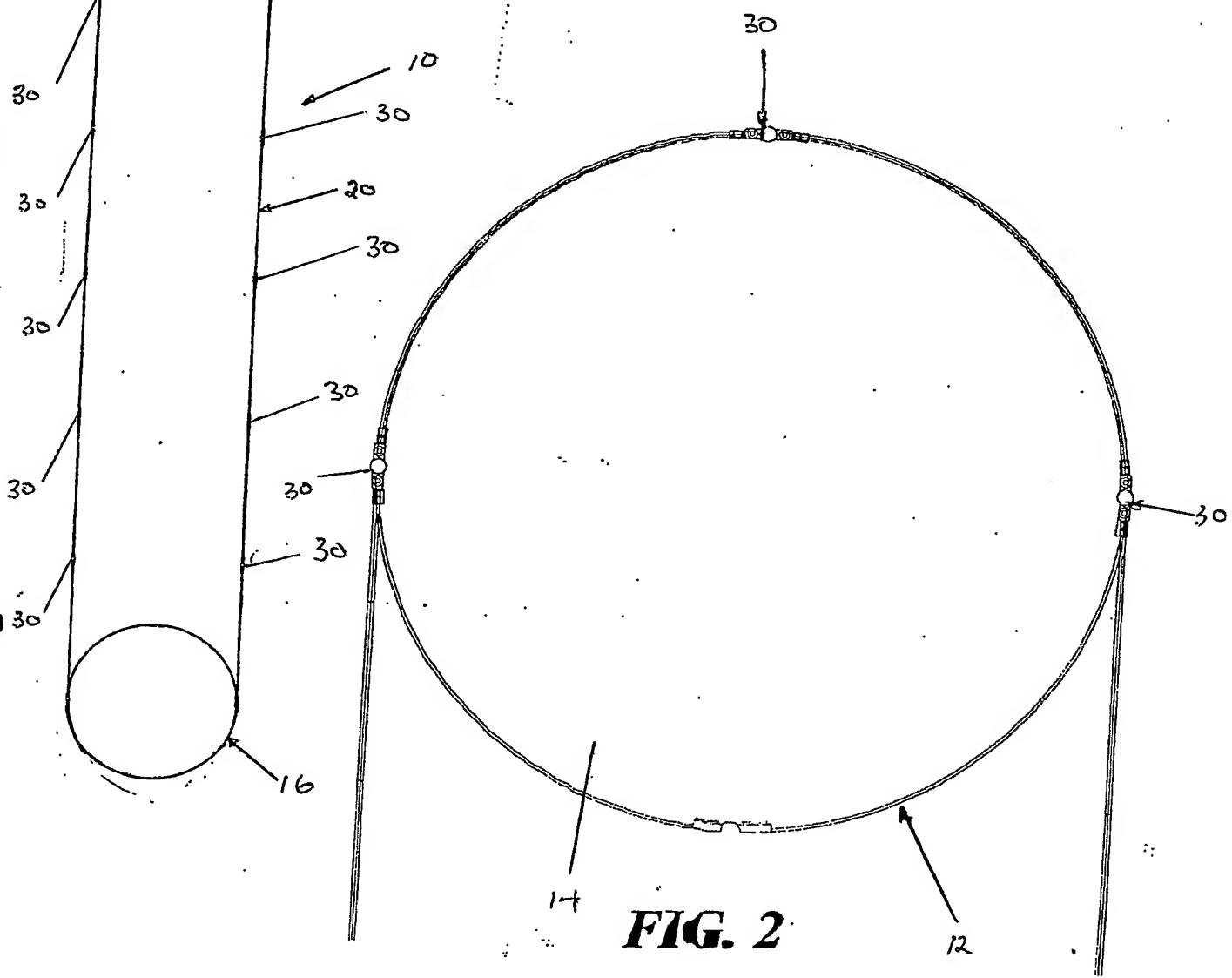
By Its Patent Attorneys

DAVIES COLLISON CAVE

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**FIG. 1**



**FIG. 2**

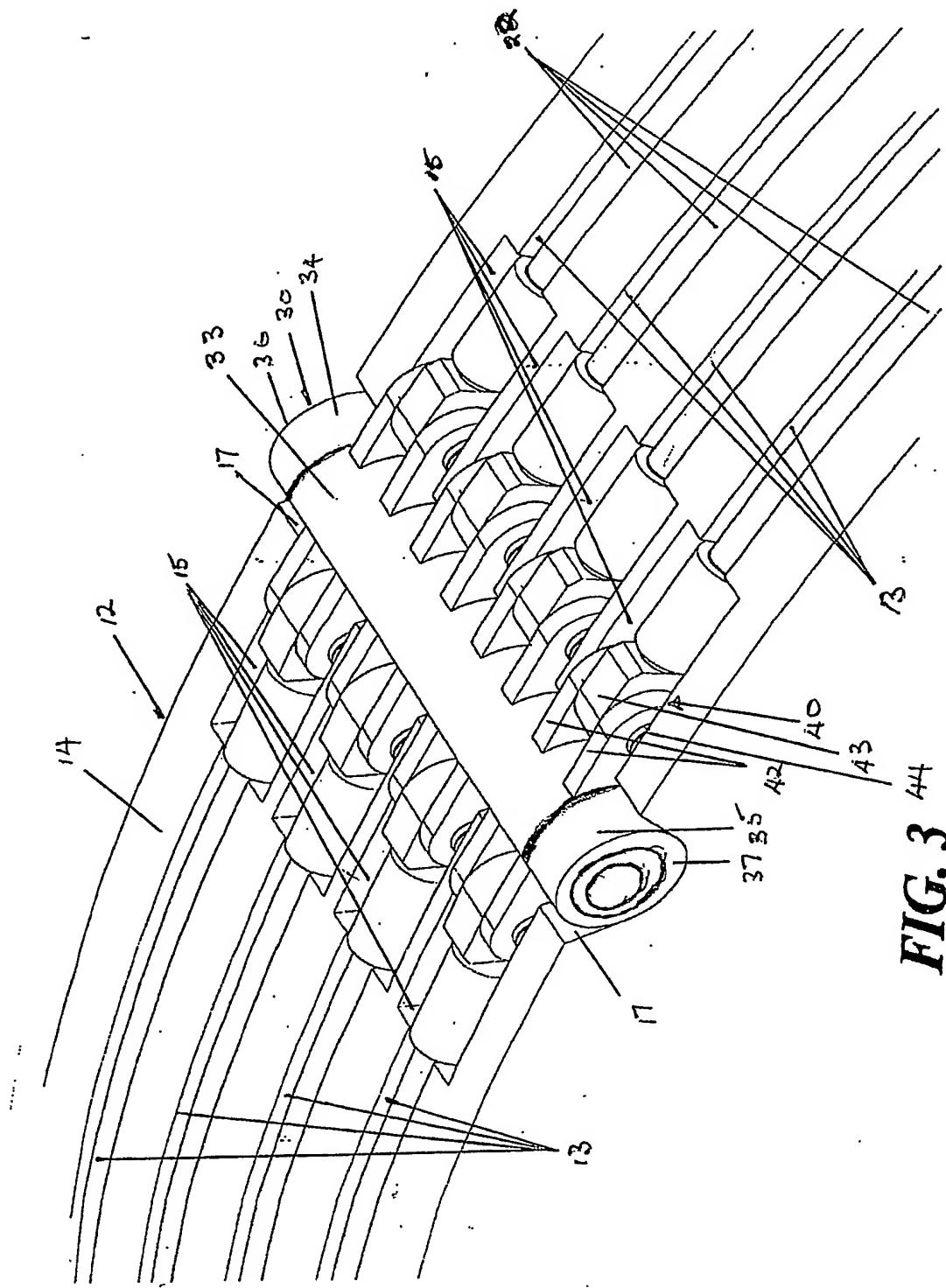


FIG. 3